

Applicant:  
For:

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A Disarmable Firing Module with Insertable Detonator

1. A disarmable firing module comprising:
- a firing module housing with an opening therein;
  - a detonator holder received in the firing module housing via the opening in the firing module housing, the detonator holder including a cavity therein;
  - a detonator disposed in the cavity of the detonator holder;
  - a detonator electronics assembly housed within the firing module housing; and
  - means for removably securing the detonator holder within the housing to separate the detonator from the detonator electronics assembly and thereby disarm the firing module without damaging it or any of its components.

2. The firing module of claim 1 in which the means for removably securing includes a pair of studs upstanding from the electronic assembly and a pair of orifices through the detonator holder for receiving the studs.

3. The firing module of claim 2 in which the detonator holder orifices include a shouldered portion providing a seat for fasteners positioned on the studs.

1                   4.       The firing module of claim 1 in which the detonator electronics  
2       assembly includes a circuit card having electrical contacts thereon for initiating the  
3       detonator, the means for removably securing including at least one fastener on the circuit  
4       card which properly positions the detonator on the electrical contacts.

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1 5. A disarmable firing module comprising:  
2 a firing module housing;  
3 a detonator electronics assembly disposed within the firing  
4 module housing;  
5 a detonator; and  
6 means for removably coupling the detonator with respect to  
7 the detonator electronics assembly.

1 6. The firing module of claim 5 in which the means for removably  
2 coupling includes a detonator holder at least partially enclosing the detonator, an opening  
3 in the firing module housing for receiving the detonator holder, and at least one fastener  
4 securing the detonator holder within the housing and for coupling the detonator to the  
5 electronic assembly.

1 7. A disarmable firing module comprising:  
2 a firing module housing;  
3 a detonator;  
4 an electronics assembly within the housing for activating  
5 the detonator; and  
6 means for disarming the firing module and rendering it  
7 inert.

1 8. The firing module of claim 7 in which the means for disarming  
2 includes means for separating the detonator from the electronics assembly.

3 9. The firing module of claim 8 in which the means for separating  
4 includes a detonator holder disposed at least partially about the detonator, the detonator  
holder receivable within the firing module housing, and at least one fastener for  
removably securing the detonator holder to the electronics assembly.

- 1                    10.        A disarmable firing module comprising:
- 2                                a firing module housing;
- 3                                an electronics assembly within the housing for activating a
- 4                                detonator; and
- 5                                a detonator electrically coupled to the electronics assembly
- 6                                when the firing module is active and removable from the
- 7                                electronics assembly to render the firing module inert.

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